

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A computer-implemented method for determining a detection cluster that is associated with a neurological event of a nervous system disorder of a patient, the detection cluster being associated with at least one detection that exceeds a predetermined threshold of a measure for a first predetermined time duration, the method comprising the steps of:

- (a) receiving a set of at least one signal;
- (b) determining an onset of the neurological event based on the set of at least one signal;
- (c) determining an end of a neurological event based on the set of at least one signal; and
- (d) clustering a set of at least one detection between the onset and the end of the neurological event.

2. (Original) The method of claim 1, wherein the measure is selected from a group consisting of a ratio of a neurological signal and an amplitude of the neurological signal.

3. (Original) The method of claim 1, wherein step (b) comprises the step of:
- (i) determining a first neurological signal that is not less than the predetermined threshold of the measure for the first predetermined time duration, wherein the first neurological signal is a member of the set of at least one signal.

4. (Original) The method of claim 1, wherein step (c) comprises the step of:
- (i) determining that all neurological signals of the set of the at least one signal is less than the predetermined threshold of the measure for a second predetermined time duration.

5. (Original) The method of claim 1, further comprising the step of:
(e) determining an occurrence of a detection, wherein the detection is a member of the set of detections.
6. (Original) The method of claim 5, wherein step (e) comprises the step of:
(i) if any neurological signal of the set of the at least one signal is not less than the predetermined threshold, recognizing the detection.
7. (Original) The method of claim 5, wherein step (e) comprises the step of:
(i) if the first neurological signal is not less than the predetermined threshold, recognizing the detection.
8. (Original) The method of claim 1, wherein step (d) comprises the steps of:
(i) determining a time interval between a first detection and a second detection, wherein the first detection and the second detection are adjacent detections; and
(ii) if the time interval is less than a second predetermined duration, clustering the first and second detections.

Claims 9-26. (Cancelled).

27. (Original) A computer-readable medium having computer-executable instructions for performing the steps recited in claim 1.

Claims 28-43. (Cancelled).

44. (Original) An apparatus for determining a detection cluster that is associated with a neurological event of a nervous system disorder, the detection cluster being associated with at least one detection that exceeds a predetermined threshold of a measure for a first predetermined time duration, the apparatus comprising in combination:

a configuration of monitoring elements; and

a processor that is coupled to the configuration of monitoring elements, the processor configured to perform the steps of:

(a) receiving a set of at least one signal;

(b) determining an onset of the neurological event based on the set of at least one signal;

(c) determining an end of a neurological event based on the set of at least one signal; and

(d) clustering a set of detections between the onset and the end of the neurological event.

45. (Original) The apparatus of claim 44, wherein step (b) comprises the step of:

(i) determining a first neurological signal that is not less than the predetermined threshold of the measure for the first predetermined time duration, wherein the first neurological signal is a member of the set of at least one signal.

46. (Original) The apparatus of claim 44, wherein step (c) comprises the step of:

(i) determining that all neurological signals of a set of neurological signals are less than the predetermined threshold for a second predetermined time duration.

47. (Original) The apparatus of claim 44, wherein the processor is configured to perform the further step of:

(e) determining an occurrence of a detection, wherein the detection is a member of the set of detections.

48. (Original) The apparatus of claim 47, wherein step (c) comprises the step of:
- (i) if any neurological signal of the set of at least one signal is not less than the predetermined threshold, associating a corresponding time with the detection.
49. (Original) The apparatus of claim 47, wherein step (c) comprises the step of:
- (i) if the first neurological signal is not less than the predetermined threshold, associating a corresponding time with the detection.
50. (Currently Amended) The apparatus ~~of claim~~ of claim 44, wherein step (d) comprises the steps of:
- (i) determining a time interval between a first detection and a second detection, wherein the first detection and the second detection are adjacent detections; and
 - (ii) if the time interval is less than a second predetermined duration, clustering the first and second detections.

Claims 51-92. (Cancelled).

93. (New) The method of claim 1, wherein the set of at least one detection in (d) comprises a first detection and a second detection.
94. (New) The method of claim 93, wherein the first detection and the second detection are separated by less than a predetermined time constraint.
95. (New) The method of claim 94, wherein the predetermined time constraint is 60 seconds.
96. (New) The method of claim 93, wherein the first detection is based on signals from a first electrode and the second detection is based on signals from a second electrode.

97. (New) The apparatus of claim 44, wherein the clustering in step (d) comprises:
- (i) clustering a first detection and second detection between the onset and the end of the neurological event.

98. (New) The apparatus of claim 47, wherein the determining of an occurrence in (c) is the determining of an occurrence of a first detection and further comprises the determining of an occurrence of a second detection, wherein the first and second detection are members of the set of detections.